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UNITED STATES NAVY Medical News Letter

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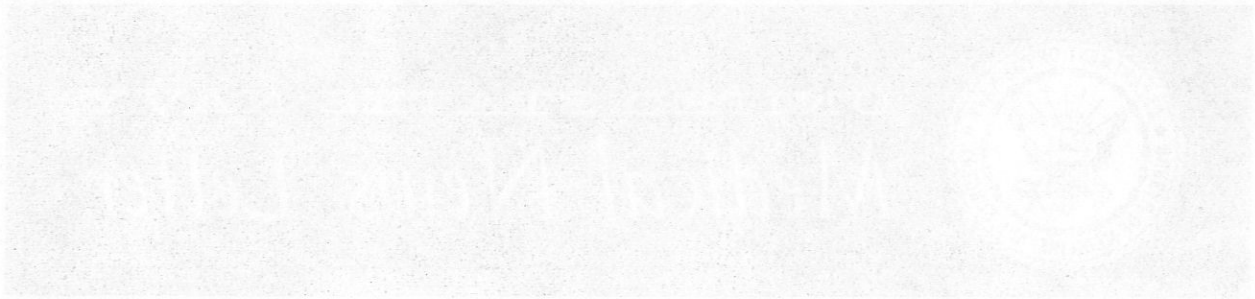

United States Navy
MEDICAL NEWS LETTER

Vol. 45 | Friday, 26 February 1965 | No. 4

Policy

The U.S. Navy Medical News Letter is basically an official Medical Department publication inviting the attention of officers of the Medical Department of the Regular Navy and Naval Reserve to timely up-to-date items of official and professional interest relative to medicine, dentistry, and allied sciences. The amount of information used is only that necessary to inform adequately officers of the Medical Department of the existence and source of such information. The items used are neither intended to be, nor are they, susceptible to use by any officer as a substitute for any item or article in its original form. All readers of the News Letter are urged to obtain the original of those items of particular interest to the individual.

Change of Address

Please forward changes of address for the News Letter to: Commanding Officer, U.S. Naval Medical School, National Naval Medical Center, Bethesda, Maryland 20014, giving full name, rank, corps, and old and new addresses.

FRONT COVER: Aerial view of the U.S. Naval Hospital, Camp Lejeune, N.C. Commissioned on 1 May 1943 at a construction cost of $7,500,000, this hospital is a self-contained command under management and technical control of the Bureau of Medicine and Surgery, Navy Department. Coordination control is exercised by the Commandant, Fifth Naval District and military control by the Commanding General, Marine Corps Base, Camp Lejeune, N.C. The mission is hospitalization support for military personnel and dependents of the Marine Corps Base; Force Troops, Second Marine Division; Marine Corps Air Facility, New River; and Marine Corps Air Station, Cherry Point, N.C.

Authorized operating bed capacity is 475, with an expanded capacity of 1,173 beds. The peak patient load during WW II was 2087—during Korean Conflict, 1,865. Since commissioning, the hospital has admitted approximately 87,000 military patients and 77,500 others. There has been a total of 45,000 births recorded. Fully accredited by the Joint Commission on Accreditation of Hospitals, specialist clinical services now include General Medicine, General Surgery, Orthopaedic Surgery, Obstetrics and Gynecology, Pediatrics, Ophthalmology, Urology, Radiology, Pathology, Otorhinolaryngology, Neuropsychiatry, Dentistry, Pharmacy and Physiotherapy.—(From the hospital's 20th Anniversary Brochure, May 1963. Commanding Officer: Capt. Frank T. Norris, MC, USN.)

The issuance of this publication approved by the Secretary of the Navy on 4 May 1964.

MALPRACTICE AND THE SERVICE DOCTOR

*LCOL Raymond Coward JAGC USA.**
United States Armed Forces Medical Journal IX(2): 232-240, February 1958.

OVERSEAS AREAS

The FTCA has no application with respect to claims arising in a foreign country and could not be the basis for a claim against a service doctor or the United States as a result of medical treatment the doctor rendered abroad. Also, the United States has not waived its sovereign immunity that prevents it from being sued in foreign courts. The Foreign Claims Act of 1942[32] permits claims against the United States by an inhabitant of the country in which the claim arose, and this Act has been implemented by Army Regulations,[33] but procedures for handling claims by inhabitants of foreign countries would, for the most part, be inapplicable to the problems under discussion, as we are primarily considering claims on the part of military personnel, civilian employees, or their dependents.

Treaty arrangements between the United States and a foreign country also have a bearing on a claim arising in any particular country. In general such arrangements follow the pattern as set forth in Article VIII, NATO Status of Forces Agreement.[34] Other similar treaty provisions are contained in the Japanese Administrative Agreement[35] and the Bonn Conventions with Germany.[36] Under such treaty provisions, claims arising out of the performance of official duties are processed and adjudicated by the foreign or receiving state according to its laws and procedures. Only when the claim arises out of a nonofficial act would it be processed under the previously named Federal statutes and regulations. In each of the treaties there is a provision that precludes recovery from the individual wrongdoer in a foreign court if his act was in the performance of official duties. The degree of protection an individual has from suit in a local foreign court depends upon the agreement, or lack of agreement, between the United States and the country concerned.

Thus, it appears that as a result of treaty arrangements, and a reluctance on the part of United States citizens to litigate in foreign courts, there is little likelihood that a service doctor will be sued in a foreign court.

* Colonel Coward is now retired from the Army and lives at Searcy, Arkansas.

EMERGENCIES

The Federal Civil Defense Act,[37] which became effective on 12 January 1951, in effect suspends the coverage afforded under the provisions of the Federal Tort Claims Act in the event of a national emergency, as will be seen from section 2294 thereof which provides:

> The Federal Government shall not be liable for any damage to property or for any death or personal injury occurring directly or indirectly as a result of the exercise or performance of, or failure to exercise or perform, any function or duty, by any Federal agency or employee of the Government, in carrying out the provisions of this title during the period of such emergency. Nothing contained in this section shall affect the right of any person to receive any benefit or compensation to which he might otherwise be entitled under the Federal Employees' Compensation Act, as amended.

It will be seen that this statute excuses the Government from liability for damages or injuries occurring as a result of the performance of, or failure to perform, any function or duty by any Federal agency or employee of the Government in carrying out its provisions in an emergency, and the United States has not waived its immunity from suit under such circumstances.

MALPRACTICE INSURANCE

There are relatively few insurance companies that will write malpractice or medical professional liability insurance and the rate is substantially higher for a doctor who desires surgical, x-ray, or shock treatment coverage than for the general practitioner. These distinctions apply equally to military doctors, but rates are generally lower for them than for civilian doctors. Presumably the main reason for this is the knowledge that Government lawyers will defend suits brought under the Federal Tort Claims Act.

The policy followed by The Surgeon General as to whether an Army doctor or nurse should carry malpractice insurance is that each one should decide this matter individually. The question arises occasionally whether the Department of the Army should pay mal-

practice insurance premiums to protect Army doctors; however, there is no known authority in existing permanent law or current appropriation acts that would permit the Army to pay such premiums out of funds appropriated by Congress. Further, if legislation should be proposed which would authorize the Army to pay malpractice insurance premiums, it appears likely that the Department of the Army would oppose its enactment. This is indicated by the position taken in 1956 with respect to H.R. 10577, 84th Congress, a bill "To provide for the procurement by the Government of insurance against risk to civilian personnel of liability for personal injury or death, or for property damage, arising from the operation of motor vehicles in the performance of official Government duties, and for other purposes." In opposing this bill the Department of the Army stated:

The bill would provide a limited amount of liability insurance or alternatively virtually complete indemnification for a limited class of Federal employees subject only to the provision that in any such case the act of an employee forming the basis for such action must be found to be 'in the performance of his official duties.' It contains no standard of conduct for the officers and employees to be protected and no standard of responsibility for potential insurers. . . The Federal Tort Claims Act, supra, now provides ample protection to third parties damaged or injured by the actions or omissions of Government workers acting within the scope of their employment.

The Department of the Army also stated that government procurement of commercial insurance would be unusual. It added, "It long has been the settled policy of the United States to assume its own risks (35 Comp. Gen. 391, 392)."

PATIENT'S RIGHT TO PRIVACY

There is a growing tendency to recognize the right of privacy as enforceable by an action in tort.[38] Under certain circumstances, tort action could be brought against a physician for violation of the patient's right to privacy, on the basis that "A person who unreasonably and seriously interferes with another's interest in not having his affairs known or his likeness exhibited to the public is liable to the other."[39]

The information that the doctor learns about the patient in the course of examination and treatment is in the nature of privileged communication and should not be revealed to unauthorized individuals without the specific consent of the patient. When a patient disrobes for any type of medical procedure, he does so for the professional benefit of the doctor, and unless he gives consent there should not be admitted either medical or nonmedical personnel who are not essential to the carrying out of the particular medical procedure.[40] To do otherwise is to violate the patient's right to privacy.

Written consent should be obtained in order to take pictures of the patient, and the pictures should be taken in such manner that the later use of them will not reveal his identity unless he has authorized in writing that it be revealed. The mere taking of pictures that are not authorized by the patient may constitute a cause of action against the doctor, even if they are never published.[40] This is true even though the pictures are for a worthy purpose such as advancing medical science.

AUTOPSIES

The performance of an unnecessary and unauthorized autopsy may subject the service doctor to a suit for damages by the next of kin or legal representatives of the deceased. The doctor might also be prosecuted for the violation of a criminal statute. The performance of an autopsy on the remains of a person who dies while serving on active duty in the military service is authorized under the conditions set forth in Army Regulations as follows:

b. Autopsies.

(1) Deceased military personnel. An autopsy will be performed on the remains of any person who dies in the military service while serving on active duty when the commander or the surgeon of an installation or command deems such procedure necessary in order to determine the true cause of death, and to secure information for the completion of military records.[41]

The same regulation requires written consent from the next of kin before performing an autopsy on a retired person or civilian who dies in a medical treatment facility or on a military installation. It also provides that an opinion defining "next of kin" should be obtained from the local judge advocate for the jurisdiction in which the installation is located. With respect to the performance of an autopsy on a civilian, the consent of the husband or wife or next of kin of the deceased is a prerequisite to the performance of an autopsy, unless the autopsy is performed, in accordance with the law, by or at the direction of the coroner or other authorized person.

The wrongful dissection of a dead body is regarded as a willful and intentional wrong against the person entitled to the possession and control of the body for burial, and a recovery may be had for the mental anguish resulting from such a mutilation. The unauthorized dissection is an interference with a legal right; the right to have immediate possession of the body in its condition at the time of death, and control for burial. A petition or complaint that alleges the right to a body, a refusal to deliver up the body on demand, and the performance of an unauthorized and wrongful autopsy thereon while it is withheld, states a cause of action. Further statutes in a number of states makes it a crime to perform an unauthorized autopsy.[42]

TRENDS IN MALPRACTICE CASES

In recent years the public has become more informed concerning medical professional liability, and this may result in more claims against physicians and surgeons. The nature of the practice and procedures involved in some specialties make the doctors practicing in such specialties more likely to be sued. Based on the amounts recovered in some recent cases, larger claims may be expected to be made in the future.

The Law Department, American Medical Association,[43] made an analysis of 605 medical professional liability decisions reported in the United States from 1935 through 1955. The study included all published decisions regardless of the level of the court involved. Of the 605 cases, which involved 782 doctors, the greatest number had to do with surgical procedures. The next largest number concerned nonsurgical treatment and involved such incidents as breaking a hypodermic needle in giving an injection, prescribing an unofficial drug, or being negligent in removing a foreign body from the eye. Treatment of fractures and of burns also ranked high in the list of causes for claims.

THE DOCTOR IN COURT

There are numerous ways, some voluntary and others involuntary, in which a doctor may come before the Court in connection with his medical knowledge and practice. He may receive a subpoena to appear as witness for either party in a case about which he has personal knowledge, he may appear as an expert witness at the request of one of the parties to the suit, he may be suing a patient or employer, or he himself may be sued. In the latter case, the suit may be for breach of contract, for malpractice in rendering medical care, for assault and battery, for false imprisonment (where undue restraint of a patient is used), or for loss or damage to the property of a patient.

Questions the Court Considers

There are certain basic questions the Court must consider in an effort to determine liability in any case of negligence or malpractice. Some of the more important questions are:

1. Was there a duty on the part of defendant?
2. Was there an injury, with resulting damages, to the plaintiff?
3. Was the injury due to negligent action?
4. Did the injury result directly from the negligent action?
5. Did the doctor commit the negligent action or did he negligently omit to do something?
6. Does the doctrine of *res ipsa loquitur* apply under the particular circumstances?
7. What would a reasonable, prudent doctor have done under similar circumstances?

In seeking an answer to the last question the problem would arise as to what standards should be applied as to the reasonableness of the medical procedure used in the particular case. The practice of medicine requires the exercise of judgment based on knowledge. The question at issue in a negligence case is whether proper judgment was exercised. The doctor is required to meet the level of professional community practice, in his own specialty, and not the level or skill of training possessed by the isolated or unusual practitioner.

The Doctor as a Witness

Before a doctor appears as a witness in a case he should assure himself that he is thoroughly familiar with the medical history and all clinical records of the case in issue. In a case involving a specialty or expert knowledge, he should review and establish firmly in his mind the medical principles that are recognized and accepted in the medical profession. In complicated cases he should take to court with him published medical authorities to be cited in his testimony in support of his position. He may anticipate that he will be rigorously cross-examined by opposing counsel as to the testimony he gives on direct-examination. A lawyer is trained to advocate the cause he represents. He seeks to make the most of any weak points which may appear in the testimony of witnesses on the opposing side of the case. The doctor should understand this and be prepared to meet it when he goes into court, rather than to indicate by his manner that he feels a reflection is being made upon his professional integrity.

It is important for the medical witness to take his time in responding to questions and to enunciate his answer clearly and distinctly. He should avoid long, complicated, technical answers to questions, and should speak in plain, understandable layman's language so that the judge and jury will better understand his testimony. The credibility of the witness, or the extent to which the Court and jury may believe his testimony, is very important in a law suit. It has a bearing when the Court instructs the jury on the evidence applicable to the case and the jury weighs the evidence by comparing the testimony given on one side with that presented by the opposing party.

SAFEGUARDS AGAINST MALPRACTICE CLAIMS

Although it is understandable that the trend in malpractice claims may cause the doctor concern, he must have the courage to act in line with his convictions as to what is best for the patient, using advanced methods of diagnosis and treatment where indicated, even though they involve certain risks. In doing this, there are certain standards or safeguards that, if observed by the practicing physician or surgeon, may avoid or at least reduce the number of medical professional liability claims.

The following are suggested ways in which the doctor may reduce the likelihood of suit without jeopardizing the welfare of his patient:

1. Avoid careless remarks about the medical treatment the patient may have received previously from another doctor.

2. Keep thorough, accurate, and complete medical records. These should include case history as well as clinical records.

3. Make thorough examinations of the patient, including all necessary laboratory tests, roentgenograms, et cetera, and record the results in the patient's medical record.

4. Obtain the confidence of the patient, establish rapport with him, and in general, improve the doctor-patient relationship as well as the relationship with the patient's family.

5. Do not experiment with unproven medicines, procedures, or technics, but adhere to proven and accepted medical principles and practices.

6. Do not guarantee cures or fixed degrees of improvement as a result of following certain prescribed medical treatments.

7. Explain the risks in surgical or medical procedures proposed, so that the patient understands the situation.

8. Obtain the written consent of the patient and the next of kin, in appropriate cases, keeping in mind that for the consent to be valid there must be a full explanation of the procedures and the risks involved.

9. In dealing with a patient with a mental illness, obtain the written consent of the next of kin if at all practicable, even though written consent of the patient is granted, as the patient's mental capacity to give valid consent may be put in issue at a later date. The advisability of having such a patient examined by more than one doctor also should be considered. This will afford the doctor better protection, particularly in a case where restraint is used, as he may later be charged with false imprisonment.

10. Beware of the dangers involved in diagnosis and prescription by telephone, without seeing or examining the patient.

SUMMARY

Malpractice or medical professional liability claims are recognized throughout the United States. The doctor in government service is less likely to be sued in his individual capacity than a doctor in private practice, because of the protection afforded him by the Federal Tort Claims Act and other Federal laws and regulations. If the service doctor is sued in a state court for acts performed in a service hospital within the scope of his employment or in connection with his official duties, he may have the case removed to a Federal court for trial. Under procedures outlined in published Army Regulations, the Army doctor may also make arrangements for the United States Attorney to defend him along with the Government. As a result, the rates for medical professional liability insurance are considerably lower for doctors in the Federal service than for those in private practice. The Surgeon General, Department of the Army, follows the policy of leaving it to each Army doctor to decide as to whether he should carry insurance. There is no current authority for payment of insurance premiums out of funds appropriated by Congress, and it is the policy of the United States to assume its own risks.

The patient's welfare should not be jeopardized through a reluctance on the part of the doctor to prescribe and render necessary medical treatment in an effort to protect himself from a possible malpractice claim, but there are safeguards that, if followed, will greatly reduce the likelihood of malpractice claims.

REFERENCES

1. Black's Law Dictionary. 4th Edition. p. 1111, citing Gregory v. McInnis, 140 S.C. 52; 134 S.E. 527, 529.
2. Rodgers v. Kline, 56 Miss. 816, 31 Am. Rep. 389; Hibbard v. Thompson, 109 Mass. 288; Napier v. Greenzweig, C.C.A.N.Y., 256 F. 196, 197.
3. Black's Law Dictionary. 4th Edition, p. 1184, citing Schneeweisz v. Illinois Central R. Co., 196 Ill. App. 248, 253, et al.
4. Black's Law Dictionary. 4th edition. p. 1660, citing Coleman v. California Yearly Meeting of Friend's Church, 27 Cal.App.2d 579, 81 P.2d 469, 470.
5. City of Mobile vs. McClure, 221 Ala. 51, 127 So. 832, 835.
6. Black's Law Dictionary, 4th edition. p.917, citing Cross vs. Passumpsic Fiber Leather Co., 90 Vt. 397, 98 A. 1010, 1014; Joyce v. Missouri & Kansas Telephone Co., Mo. App., 211 S.W. 900, 901.
7. 146 P (2) 982 (Dist. Ct. of App. 2nd Dist. Dir. 3, Cal. 1944) affirmed 25 Cal. (2) 486, 154 P (2) 687 (Sup. Ct. of Cal. 1944).
8. 28 U.S.C. 2671, et seq., (1946).
9. Army Regulations: AR 25-70.
10. 57 Stat. 372, 1943.
11. Army Regulations: AR 25-25.
12. 50 U.S.C. 738; 28 USC. 2674.
13. Army Regulations: AR 27-5.
14. 28 U.S.C. 2676.
15. 28 U.S.C. 2671.
16. E.D. Ark., 123 F. Supp. 906.
17. D.C., Md., 93 F. Supp. 567.
18. 225 F. 2d 705.
19. 171 F. 2d 365, cert. denied 337 U.S. 919.
20. 103 F. Supp. 543, affirmed 195 F. 2d 494.
21. 181 F. 2d 723.
22. 346 U.S. 15.
23. 350 U.S. 61.
24. 350 U.S. 907, affirming D.C. Cir., 221 F. 2d 62.
25. 340 U.S. 135 (1950).
26. 178 F. 2d 518, affirming D.C. Md., 77 F. Supp. 706.
27. 10 Cir., 178 F. 2d 1.
28. Parr v. U.S., D.C., Kan., 78 F. Supp. 693, affirmed 172 F. 2d 462.
29. 63 Stat. 861, 5 U.S.C.A. 757(b); Johansen v. U.S., 343 U.S. 427.
30. Footnote 17, supra.
31. Public Law 569, 84th Congress, 7 June 1957, 70 Stat. 250.
32. 31 U.S.C. 224d-224i.
33. Army Regulations: AR 25-90.
34. TIAS 2846, 19 June 1952.
35. TIAS 2492, 28 February 1952, and TIAS 2783, 23 March 1953.
36. Finance Convention as amended by Schedule III to the Paris Protocol, 5 May 1955.
37. 50 U.S.C. app. 2294 (1950).
38. Melvin v. Reid (Cal.), 297 Pac. 91; Schuyler v. Curtis, 147 N.Y. 434; and sec. 138 A. L. R. 22.,
39. Restat, of Law of Torts, 4.
40. Patient's right to privacy. (Medicine and Law section) JAMA 165: 167-168, Sept. 14, 1957.
41. Army Regulations: AR 40-200, paragraph 13.
42. Doctor and Patient and the Law by Louis J. Regan, 3d edition, pages 86-87. McPosey v. Sisters of the Sorrowful Mother, et al. (Okla.) 57 Pac. (2d) 617; Morrow v. Cline (N.C.)., 190 S.E. 207; Liberty Mutual Ins. Co. v. Lipscomb (Ga.), 192 S.E. 56.
43. Court decisions—medical professional liability. (Medicine and Law section) JAMA 164: 1349-1357, July 20, 1957.

WHAT KIND OF LEADERSHIP APPROACH?*

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In the Medical News Letter, Volume 43, Number 4 of 21 February 1964, there appeared an article entitled "Leadership Concept: Hard Versus Soft Management." This article is reproduced below.

"The difference between the good leader, manager or supervisor and the run-of-the-mill one is that the good leader makes things happen while the other allows things to happen. This is frequently referred to as the difference between the traditional, military or "hard" management and "soft" management. In "hard" management, the leader knows what he wants to have happen and what needs to be done to accomplish this mission. In "soft" management the leader backs off from responsibility and merely allows things to happen. However, there is only one kind of leadership—that conduct which induces followership and aids in accomplishment of mission. It has to be adapted to the situation. On occasion it may be driving —a kick in the seat; other times it may be pulling—inquiring into and tapping a person's mental resources. Whichever it is, it requires knowledge of human behavior to promote outstanding performance."

At first blush, the article appeared to be speaking of only two types of leadership, autocratic (hard) and laissez-faire (soft). Upon re-reading the article, it is evident that the more modern concept of leadership is included and deserves further amplification.

Before presenting any personal thoughts concerning the modern concept of leadership, I would like to state that although the concept of laissez-faire does in fact exist, and unfortunately so, I would rather not consider this to be a form of leadership. It isn't leadership, it is nothing. When the thought of leadership comes to mind, a stimulus also comes in mind. If laissez-faire is to be considered a stimulus, it is a negative one. Such negativism is not the type of leadership the Navy is seeking.

The text on Naval Leadership states that "the best methods of naval leadership must simultaneously exist in two dissimilar and opposite forms."[1] These two forms, authoritarian and democratic, exist and are included in and commonly known as the Theory of Biformity.[2]

Why must two dissimilar methods of naval leadership exist simultaneously? There is a definite requirement in the Navy for an unquestioning response to authority even though this response may at times be unpalatable. A man's democratic rights do suffer under this approach but the need cannot be denied.[3]

It has been determined that a higher form of motivation can be attained by using the democratic approach or what has been called by various authors the participative approach to leadership.[4] I am certain that the need for a higher form of motivation is the desire of all leaders, a motivation that permits the individual to gain satisfaction from the challenge and accomplishment of the task before him.

The problem that exists is to fuse the two dissimilar forms of leadership. Missions and objectives must be accomplished—goals must be set and met. One of our jobs as leaders is to set and accomplish these goals. Another one of our jobs is to satisfy the needs of our followers. It then seems necessary that we motivate our followers in such a manner that their needs are satisfied through the attainment of the goal. Research has indicated that one method of providing such satisfaction of needs even though directed toward the established goal is through the use of the democratic, participative, or permissive (not to be confused with laissez-faire) leadership. Get the followers' ego-involved so that they will have a direct interest in the accomplishment of the goal and achieve satisfaction while working toward and accomplishing this goal.

I believe that, for the sake of discussion, delegation may be included in participation. There are many reasons why leaders will not permit participation. Some of these reasons are: the feeling that one can do the job much better than others; participation takes too long; a lack of decisiveness in the matter; a concern that the subordinates may do a better job, thereby, endangering one's position; a lack of ability to direct others; a lack of confidence in subordinates; a lack of proper feed-back for control purposes; and the calculated risk of taking a chance. This list is not intended to be all inclusive. One of the many responsibilities of

* Forwarded to the Medical News Letter by CDR E. L. Van Landingham Jr., MSC USN-Commanding Officer, U.S. Naval School of Hospital Administration, NNMC, Bethesda, Md.

1. Malcolm E. Wolfe, Commander, U.S. Navy, et al, Naval Leadership (2nd ed. U.S. Naval Institute, Annapolis, Md., 1959), pp. 8-10.
2. *Ibid.*
3. *Ibid.*
4. *Ibid.*

the leader is to develop his subordinates. Participation is an excellent means for development. This is just another reason for the use of the democratic or participative form of leadership.

There are many reasons, and very good ones, for the use of the authoritarian form of leadership. The need for a positive structure and a single direction of purpose is an economic and military necessity. Such a need is not denied under certain circumstances but the need for participation also cannot be denied.

Below is a graphic presentation of the two dissimilar methods of leadership with graduations and combinations of each.[5] This portrayal has been slightly modified in order to make it more leader-oriented.

Authoritarian						Democratic Participative Permissive
USE OF AUTHORITY (Direction)						
						Area of Freedom of Action afforded followers (Entropy)
Leader makes decision and issues command	Leader makes decision and sells decision to followers	Leader presents decision and invites questions	Leader decides. Elicits suggestions. Decision may be changed.	Leader asks for suggestions but makes decision	Leader defines limits and followers make decisions	Leader permits followers to function within limits defined by leader

The graphic portrayal, as you may have noticed, does not permit complete freedom of action on the part of the followers. The leader is still in authority, defining the limits within which the followers may have freedom of action. At the right of the portrayal the ingredients of control and leadership necessary for the accomplishment of the task are still present but to a much lesser degree than indicated to the left of the diagram. The same concept applies to the extreme left which indicates that authority is not absolute. Authority, like freedom, is never without limitations.

Deciding on the Leadership Pattern

It is not possible to state which leadership pattern is to be followed. There are too many variables involved in the ultimate determination. Generally speaking, these variables may be classified under the general headings of the leader, the followers, and the situation that exists at a particular moment.[6]

The Leader. A leader's behavior under any circumstances is in part influenced by his own personality. Over the years an individual develops a value system of his own and he will act in such a manner as to best maintain his system of values. Perhaps he is naturally dominant and is comfortable in the leadership role only when he is acting in an autocratic manner. He may not be comfortable having others make decisions for which he is ultimately responsible. There may be a feeling of uncertainty because of his knowledge of and confidence in his subordinates.

The Follower. Some followers have a definite need for freedom and independence to make decisions; whereas, others require and desire a more autocratic leadership. Not all followers are capable of assuming the responsibility of decision-making, possibly because of the lack of necessary knowledge and experience to deal with problems of a particular nature. Permitting a man to make a decision when he has been oriented in an autocratic environment may be quite traumatic. The same trauma may appear when one who has had freedom and independence in decision-making is put into a very structured, directive, and autocratic environment.

The Situation. The type of leadership demonstrated is also influenced by the type of organization, the leadership approach practiced by the immediate superiors, the nature of the group to be led, the nature of the problem, and the constantly demanding factor of time.

The Navy is basically an autocratic organization. Autocratic leadership is under many circumstances desired, required, and condoned. A leader has a tendency to act in a manner which is expected by the organization. Tied in closely with the organization is the leadership behavior exhibited by the immediate superior. If the immediate superior is autocratic, there is a tendency for the follower of that superior officer to act in the same manner. The inverse is also true if the superior is a democratic-type leader.

5. Robert Tannenbaum and Warren H. Schmidt, "How to Choose a Leadership Pattern," Harvard Business Review, Vol. 36, No. 2, March-April 1958, pp. 95-101.
6. *Ibid.*

The effectiveness of the group is also a variable that influences the leadership pattern. A willing, cohesive group that has the ability to handle problems effectively can be given more latitude than a less willing, less cohesive, and less capable group. The latter group would require more direction than the former.

The group acceptance of the goal is another variable. The group that accepts the goal as their own may require much less supervision than the group that is disinterested in and does not accept the goal as their own.

The problem itself and the time factor involved may determine the amount of freedom permitted. Some problems may require immediate and decisive action—there is no time for a group conference. Others are not so urgent and there is opportunity for participation by the group. Also, there are certain problems which, of necessity, must be resolved by the leader alone. In such cases, decision-making cannot be shared with the subordinates.

These are some of the variables that are working interdependently which may determine the type of leadership pattern to be followed. What kind of leadership approach is the best one? Since a higher form of motivation can normally be gained by the involvement of personnel and the satisfactions that can be derived from this involvement, it would appear that the best leadership approach would be one which is situated on the right of the continuum of the graphic portrayal. The prevailing variables would dictate when it would be necessary to move to the left, the more autocratic form of leadership. Such movement might be interpreted by some as a lack of consistency in leadership behavior; however, it must be realized that different situations will, of necessity, call for various forms of leadership. A good leader must be flexible enough to move on the continuum but he must also establish for himself a general pattern of leadership behavior.

FROM THE NOTE BOOK

AVAILABILITY OF NEUROPSYCHIATRIC RESIDENCIES IN NAVAL HOSPITALS

It is the intention of this Branch to apprise interested individuals of the availability of a limited number of vacancies in the fully approved Navy psychiatric residency training program. Each year there are only nine openings for Navy psychiatrists beginning at the first year level. The Navy hospitals which have residency training programs in psychiatry are Bethesda, Maryland; Oakland, California; and Philadelphia, Pennsylvania.

Prospective residents frequently ask the question whether any Naval hospital can offer completely satisfactory residency training within its own walls and at the same time meet the requirements now emphasized by the review committees of the various national approving and accrediting bodies. The same question could be asked of any hospital. The Navy's psychiatric residency training program, as necessary, utilizes additional psychiatric facilities to round out the training program. State psychiatric hospitals are used for gaining full time experience with chronic hospitalized psychotic patients. Full time assignments are also made, to gain experience, in neurology, in psychiatric outpatient clinics and in child guidance clinics. Extensive use is also made of civilian consultants who conduct seminars and supervise long term therapy cases. The experience gained in the Navy hospitals covers inpatient and outpatient psychiatry with the entire diagnostic category being covered. Both male and female patients of all ages are seen for evaluation and treatment as indicated. The types of therapy taught and utilized encompass all that are available; for example, individual and group psychotherapy, and drug, somatic, group activities, occupational and milieu therapies. In addition, each residency hospital is located in a metropolitan area which has available many psychiatric lectures, short courses and medical schools with excellent psychiatric departments. Thus, the availability of academic exposure to psychiatric matters is extensive. The Neuropsychiatric Program is further backed up by relevant research programs of considerable variety.

The Surgeon General's Consultant Panel in Neuropsychiatry is composed of the following clinical members. These members are a ready source of assistance and guidance in dealing with all facets of Navy neuropsychiatry.

Francis J. Braceland, M.D.
Psychiatrist-in-Chief
The Institute of Living
200 Retreat Avenue
Hartford 2, Connecticut

Ewald W. Busse, M.D.
Chairman, Department of Psychiatry
Duke University Medical Center
Durham, North Carolina

Howard P. Rome, M.D.
Head, Psychiatry Section
Mayo Clinic
Rochester, Minnesota
(and President-Elect of the American Psychiatric Assn.)

Augustus S. Rose, M.D.
Professor of Medicine
Division of Neurology
School of Medicine
The Center for the Health Sciences
Los Angeles, Calif. 90024

Cecil L. Wittson, M.D.
Dean, College of Medicine, and
Chairman, Department of Neurology and Psychiatry
University of Nebraska
College of Medicine
602 South 44th Avenue
Omaha 5, Nebraska

A copy of a recent Navy NP Newsletter can be obtained by writing to this office. This generally reports what was accomplished this past fiscal year and part of what is planned for the coming year and will give you further details regarding the scope of Navy psychiatry, including some of the current NP research studies.

Applications for residency training are reviewed by the Surgeon General's Advisory Board which selects residents for training. Although most residencies start in July of each year, for some years residents have been started in psychiatry at various times of the year varying with available vacancies at individual hospitals which result from completion of residency training by other individuals. Inquiry for further details can be made directly to this office. We invite those interested to write promptly to:

Neuropsychiatry Branch (Code 313)
Bureau of Medicine and Surgery
Navy Department
Washington, D.C. 20390

ACOG ANNUAL CLINICAL MEETING

The annual Clinical Meeting of the American College of Obstetricians and Gynecologists will be held in San Francisco, California, 5-8 April 1965. A special air lift to provide transportation between Andrews Air Force Base and the U.S. Naval Air Station, Alameda, California, has been confirmed with the following schedule:

Depart Andrews Air Force Base 0800, 4 April 1965
Depart NAS Alameda, California 0800, 9 April 1965

Medical officers who wish to utilize this air lift should forward requests for reservations no later than 15 March 1965 to Director, Professional Division, Bureau of Medicine and Surgery.

AMERICAN BOARD OF OBSTETRICS AND GYNECOLOGY

The Part II examination will be conducted by the American Board of Obstetrics and Gynecology at The Edgewater Beach Hotel, Chicago, Illinois April 26-May 1, 1965. Candidates scheduled for examination are urged to make their hotel reservations at an early date.

Applications for the Part II examination to be given in April of 1966 will be accepted in the office of the Secretary during April or May, 1965 and must be accompanied by duplicate lists of patients dismissed from their service during the 12 months immediately preceding date of application.

Current Bulletins outlining present requirements and application forms may be obtained by writing to the office of the Secretary. Applicants are urged to familiarize themselves with the new rules and regulations covering the new schedule of examination which goes into effect this year.

Diplomates of this Board are requested to keep the Board office informed of their current address.

Clyde L. Randall, M.D.
Secretary and Treasurer
American Board of Obstetrics and Gynecology
100 Meadow Road
Buffalo, New York 14216

OPHTHALMIC PATHOLOGY COURSE

An additional course in Ophthalmic Pathology will be conducted in Fiscal Year 1965 at the Armed Forces Institute of Pathology, Washington, D.C., from 12 April through 16 April 1965.

Officers desiring to attend should submit their requests, in accordance with BUMED INST. 1520.8A, to this Bureau, Attention: Code 316, as soon as possible. Early submission is necessary in order to comply with the Army's request to return unused quotas 6 weeks in advance of the convening date.

AMERICAN COLLEGE OF PHYSICIANS ANNUAL MEETING

This Annual Meeting will be held in Chicago, Illinois on 22 through 26 March 1965. A special air lift departing Andrews Air Force Base, Washington, D.C. at 1200 hours on 21 March and returning at 0800 hours on 27 March from Glenview, Illinois is scheduled to accommodate medical officers of the Armed Forces who desire to attend this meeting.

Interested medical officers should forward requests by message for reservations immediately to: Director, Professional Division, BuMed.

NAVAL MEDICAL RESEARCH REPORTS

U.S. Naval Medical Research Institute, NNMC, Bethesda, Md.

1. Behavioral Contagion: MR 005. 12-2005.01 Report No. 2.
2. Long-Term Intraoral Findings in Humans After Exposure to Total-Body Irradiation from Sudden Radioactive Fallout. I. Five Year Postdetonation Studies: MR 005. 12-5300.01 Report No. 1, January 1964.
3. Nematode Parasites From Mammals Taken on Taiwan (Formosa) And Its Offshore Islands: MR 005.09-1606.01 Report No. 14, February 1964.

4. Digenetic Trematodes of Fishes From Palawan Island, Philippines. Part I. Families Acanthocolpi-Angiodictyidae, Cryptogonimidae, Fellodistomidae and Gyliauchenidae: MR 005.09-1606.01 Report No. 12, April 1964.
5. The Effect of Temperature and Hematocrit on the Viscosity of Blood: MR 005.02-0020.01 Report No. 3, June 1964.
6. Structure Vs. Toxicologic Parameters in New Esters of Tropine and ψ -Tropine. VI. : MR 005.06-0010. 01 Report No. 32, July 1964.

DENTAL SECTION

PULPAL REACTIONS TO CARIES*

Sadahiro Yoshida and Maury Massler, Dental Abstracts 9(9): 551-553, September 1964.

Active and arrested caries of the dentin show important differences in ground and decalcified sections, a histologic study of 98 teeth reveals.

In the active lesion, the ground section shows a surface necrotic layer which appears soft, light brown, cheesy and structureless. Below this layer always appears a wide, yellowish, decalcified layer. Sclerotic dentin usually is absent or present in an extremely thin layer under the decalcified layer. In the decalcified sections of active lesions, the necrotic layer is hematoxylinophilic and not sharply demarcated from the underlying decalcified layer. The decalcified dentin contains tubules with basophilic granules, transverse fissures and ampule-shaped cavitations.

In the arrested lesion, the ground section reveals a thin or absent necrotic layer. The layer immediately below is hard, leathery and heavily pigmented. A prominent, white sclerotic layer always is present under the pigmentation. In the decalcified sections of arrested caries, the necrotic layer is absent or, if present, is a thin, amorphous, faintly hematoxylinophilic material clearly separated from the dentin layer below. The pigmented zone usually is free of basophilic granules. No sclerotic zone can be distinguished.

No odontoblastic or pulpal responses were observed under enamel caries. Under active lesions, a basophilic line appears at an early stage along the pulpal border of the primary dentin. Under arrested lesions, this line or stripe is found at the junction of the primary and reparative dentin.

The pulpodentinal membrane subjacent to the lesion often is absent or interrupted, especially during the active stage of the carious attack.

Reparative dentin matrix appears to form during the early stage of dentinal caries. Little additional reparative dentin is formed during the later stages of arrested caries. Odontoblasts subjacent to the reparative dentin under the arrested lesions are inactive, degenerated, atrophied or absent.

The human dental pulp shows a high reparative potential. The amount of reparative dentin formed can be correlated with the depth of the carious lesion. The carious process shows a greater tendency to extend along the junction between primary and reparative dentin rather than to penetrate directly through the reparative dentin into the pulp. Except under deep dentinal caries, the pulp tissue of most teeth shows no pronounced inflammatory changes.

EFFECTIVENESS OF COPAL RESIN VARNISH UNDER AMALGAM RESTORATIONS*

D. Barber, J. Lyell, and M. Massler, Dental Abstracts 9(9): 562, September 1964.

When copal resin varnish is flooded into a prepared cavity so that it covers the walls as well as the floor of simple and compound amalgam restorations, the varnish completely seals the margins of the restoration against the penetration of ionic and molecular tracers. How long such a seal remains effective is not known.

Cavities were prepared in freshly extracted cuspids, bicuspids and molars. In the control Group I, Class V and Class II preparations were restored immediately with no copal resin varnish. In the teeth in Group II, varnish was used only on the floor (axial wall), and the Class V cavity preparations filled with silver amalgam. In the Group III teeth, Class V cavities were prepared and copal resin varnish was flooded into the cavity to cover the walls and floor, after which silver amalgam was condensed into the cavity.

Class II cavity preparations also were lined with copal resin varnish, either by flooding the entire cavity with the varnish, or by placing the varnish on only one proximal surface of an MOD preparation before restoration.

The roots of the teeth were covered with wax and the teeth were immersed in S^{35} as sodium sulfate or Ca^{45} as

calcium chloride, or a dye tracer (a 3.18 per cent solution of toluidine blue) was used. After immersion for one week the teeth were sectioned longitudinally and examined autoradiographically.

In the control group (Group I) teeth, dye and isotope tracers had penetrated into all margins of the restorations to the floor of the cavity only. The cavities in Group III teeth which were flooded with the copal resin varnish showed a complete absence of dye or isotope penetration. Compound cavities with varnish on one proximal surface showed a complete lack of isotope or dye penetration on the varnished side, but the unvarnished side showed deep penetration. In vivo clinical testing is in progress to determine how long the varnish is effective as a sealer.

R. W. Phillips, research professor in dental materials at Indiana University School of Dentistry, comments as follows:

"Evidence accumulates to indicate that cavity varnishes serve a useful role in restorative dentistry. However, certain of the variables associated with their use need further investigation. One of those facets has been explored in this report. The results of this study clearly indicate that a continuous coating of the varnish over the entire cavity preparation is essential if maximum protection against the seepage of deleterious agents is to be attained. Although for the purpose of the study the investigators "flooded" the cavity preparation with the varnish in order to assure a complete coverage of all surfaces, it should not be inferred that the clinical application of a varnish is not to be done delicately. Gross excesses at the margins prevent proper finishing of the amalgam tooth margin. Likewise, the varnish should be applied in several thin coatings, not as a thick, viscous single layer. A better seal is attained with several thin coatings than by a thick consistency varnish. If the varnish becomes viscous it should be thinned by an appropriate solvent.

"The authors properly emphasize that further in vivo testing will be required to determine if the exceptional seal provided by the varnish deteriorates at the exposed marginal areas. Observations in several well-controlled dental practices have shown no apparent breakdown in this area after as long as eight years of clinical service. However, further documentation is necessary.

"Although this research indicates that with the amalgam restoration it might actually be advantageous to bring the varnish to the margins of the cavity preparation, a comparable conclusion does not necessarily follow with all other restorative materials. For example, it is known that the varnish is especially valuable to the silicate restoration as it minimizes the penetration of acid from the silicate gel into dentin. However, in this instance it may be desirable to remove the varnish from the margins so that the complete effect of the fluoride in the silicate may be attained. The presence of the varnish at the critical marginal areas does inhibit somewhat the reaction of the fluoride with tooth structure and thus prevents maximum reduction in enamel solubility.

"This research corroborates previous studies in this field and fills a void relative to the correct clinical usage of cavity varnishes."

EFFECT OF POWERED TOOTHBRUSHING PLUS INTER-DENTAL STIMULATION UPON THE SEVERITY OF GINGIVITIS

Irving Glickman DMD, Richard Petralis DDS, and Robert M. Marks DDS, Jour Periodont 35(6): 69-74, November-December 1964.

The introduction of automatic toothbrushes has focused attention upon toothbrushing and interdental stimulation in terms of gingival health. Numerous investigations have reported more beneficial effects with the automatic toothbrush than with the hand toothbrush, but the findings have not met with universal acceptance. Because of the interest in this phase of periodontics, a clinical study was conducted to compare the effect of powered toothbrushing with powered toothbrushing plus interdental stimulation upon the condition of the interdental gingival papillae. The study showed that powered toothbrushing with the use of an interdental stimulator adapted for the powered toothbrush reduced the severity of interdental gingival inflammation by an average of 26.3%.

Powered toothbrushing plus interdental stimulation was equally effective on the maxilla and mandible except for the lingual surface of the mandible. Greatest improvement in the gingival condition following powered toothbrushing plus interdental stimulation occurred on the facial surface of the mandibular right posterior area; least reduction in gingival inflammation occurred on the lingual surface of the mandibular left posterior area.

The maximum difference between the percentage reduction in interdental gingivitis following powered toothbrushing alone as compared with powered toothbrushing plus interdental stimulation occurred on the lingual surface of the mandibular anterior segment. In this area gingivitis was reduced 26.3% following powered toothbrushing plus interdental stimulation and 1.4% following powered toothbrushing alone.

It was not established whether the effects of toothbrushing and interdental stimulation are derived from cleansing action or massaging or both.

EXTRADIETARY FLUORIDE SUPPLEMENTATION*

Richard E. Jennings and Robert T. Culpepper, Dental Abstracts 9(9): 581, September 1964.

The effect of supplemental fluoride in combination with other compounds on either caries or enamel mot-

tling cannot be predicated. Strong motivation on behalf of both parents is necessary to dispense supplemental fluoride properly over a long period and to prevent excessive consumption. Supplemental fluoride preparations cannot be considered a satisfactory substitute for either the consumption of fluoridated water or the application of a concentrated topical fluoride to the teeth in the dental office.

As noted by Hennon and Muhler (1962), caution is necessary in anticipating results to be obtained from extradietary fluoride administration when comparing such administration to a fluoridated public water supply, since the two methods differ drastically. Even though it is possible to ingest the same total amount of fluoride each day from either source, the duration of blood availability and the peaking of fluoride ions in the blood undoubtedly are different. In a quart of drinking water fluoridated to 1.0 mg. per liter, a child would consume 1.0 mg. of the fluoride ion in small doses over a long period. If 1 mg. of fluoride were ingested in a single dose, it would be rapidly eliminated by the kidneys, with only a transitory amount available to the developing teeth.

Consumption of fluoride from a fluoridated water source supplies fluoride to the body during various periods of the day and maintains a more constant blood level. Also, it increases the food fluoride content since fluoridated water is used in the preparation of the meals. Studies on both animals and human beings show that the fluoride tablet taken once daily does not duplicate the blood picture of one drinking fluoridated water, and as a result may not duplicate the decay preventive effect in the teeth.

The effect of a fluoride-multivitamin preparation on caries has not been investigated in children but, in experiments in the monkey, there are indications that vitamins A, C, and D influence fluoride metabolism. Thus, the physician who prescribes vitamin preparations containing fluoride cannot be assured that the fluoride will be effective nor can he predict the effect on enamel appearance (mottling).

Any fixed combinations of fluoride with other nutrients increase the difficulty of adjusting the prescribed fluoride to allow for fluoride levels already in the child's drinking water, since alterations of the dose also will alter the vitamin intake.

DENTAL X-RAY EXPOSURE OF SITES WITHIN THE HEAD AND NECK

A. G. Richards MS, Ann Arbor, Michigan and R. L. Webber DDS, San Francisco, Calif., Oral Surg, Oral Med, and Oral Path, 18(6): 752-756, December 1964.

The article cites an investigation carried out to determine the amount of radiation to which selected sites within the patient's head and neck are exposed during posterior bitewing and periapical X-ray examinations. The results, shown in the tables that follow, indicate that, with few exceptions, the exposures made with 65 and 90 KVP were comparable, and that all were relatively low compared with earlier studies reported in the dental literature.

POSTERIOR BITEWING

Organ	65 KVP		90 KVP	
	Exposure of organ (mr)	Per cent of total exposure	Exposure of organ (mr)	Per cent of total exposure
Lens of eye	28.0	0.8	27.0	1.0
Anterior tongue at midline	333.0	10.1	330.0	12.5
Posterior tongue at midline	221.0	6.7	236.0	8.9
Submaxillary gland	60.0	1.8	81.0	3.1
Parotid gland	42.0	1.3	50.0	1.9
Pharyngeal tonsil	62.0	1.9	82.0	3.1
Pituitary gland	15.0	0.5	32.0	1.2
Thyroid gland	39.0	1.2	44.0	1.7
Spinal cord	8.0	0.2	13.0	0.5

PERIAPICAL X-RAY

Organ	65 KVP		90 KVP	
	Exposure of organ (mr)	Per cent of total exposure	Exposure of organ (mr)	Per cent of total exposure
Lens of eye	77.0	2.1	79.0	2.6
Anterior tongue at midline	427.0	11.5	429.0	14.2
Posterior tongue at midline	222.0	6.0	226.0	7.4
Submaxillary gland	79.0	2.1	78.0	2.6
Parotid gland	37.5	1.0	35.0	1.2
Pharyngeal tonsil	111.0	2.9	110.0	3.7
Pituitary gland	56.0	1.0	36.0	1.9
Thyroid gland	49.0	1.3	48.0	1.6
Spinal cord	16.0	0.3	12.0	0.5

PERSONNEL AND PROFESSIONAL NOTES

Policy on Ultrasonic Instrumentation in Periodontal Therapy and Oral Prophylaxis. The Dentsply-Cavitron Ultrasonic Dental Unit, FSN 6520-890-1584, is available to naval dental activities. Due to early reports of potential oral tissue damage from this instrument, BuMed policy has limited its use to dental officers with special training.

A recent thorough review of the published literature (*U.S. Navy Medical News Letter* 44(12): 12, 25 Dec 1964) indicated that no significant injury occurs when this instrument is used with appropriate knowledge, care, and skill. The bulk of evidence indicates that this instrument is an excellent adjunct to periodontal therapy. The evidence also justifies authorization of properly trained and supervised dental technicians to use this instrument for removal of supragingival calculus.

Appropriate special training in use of this instrument is available in the five-day course in "Periodontics" given at the Naval Dental School. Comparable special training is also offered at some civilian dental schools in the form of short postgraduate courses and may be supported by BuMed funds.

Appropriate formal training for dental technicians is not available. To date, such training is available only from local dental officers who are so trained. It is emphasized that the supervising dental officer will always be responsible for the patient care performed by his auxiliary personnel.

Dental Corps Contributes to International Relations. A recent issue of *The Observer*, published by MACV, for U.S. Forces in Vietnam, carried an article on fabrication of artificial eyes at the Cong Hoa Hospital in Saigon. Development of this program is an excellent example of the manner in which CAPT Glen D. Richardson DC USN has contributed to international relations, as well as to the health and well-being of allies, by transmitting to allied officers the knowledge and skills gained from U.S. Navy Dental Corps training programs.

Until last August, the only prosthetic eyes available in Vietnam were imported from Japan. CAPT Richardson, stationed at Headquarters Support Activity, Saigon, noted that several wounded soldiers at the Cong Hoa Hospital were missing eyes. CAPT Richardson made known to the hospital authorities that both he and his prosthetic laboratory technician, DT1 Gradie K. Maness, had been trained in maxillofacial prosthetic technics at the U.S. Naval Dental School, National Naval Medical Center, Bethesda, Maryland. Upon request of the hospital authorities, CAPT. Richardson initiated a part-time training program for the dental staff, headed by CAPT Nguyen Van Dom, in February 1964. Since August, over 35 patients have been fitted with eye prostheses by the Vietnamese dental staff. The technic for fabrication of artificial eyes and other maxillofacial prosthetic appliances by the adaptation of dental prosthetic materials and methods was developed at the U.S. Naval Dental School during World War II and the years immediately following. Many World War II eye casualties were treated. During recent years, the Navy Dental Corps has maintained the capability for maxillofacial prosthetic service at the U.S. Naval Dental School and at the U.S. Naval Hospital, San Diego, California. In 1963 and 1964 respectively, totals of 376 and 321 maxillofacial prosthetic appliances were fabricated at those two naval dental facilities.

The Navy Dental Corps maintains capabilities in these unique technics by means of a continuing training program for specially selected prosthodontists and prosthetic laboratory technicians at the Naval Dental School should the need arise in the event of a national emergency.

(Photo compliments of The Observer. *Legend: Vietnamese soldier gets artificial eye. Dental officers Khang and Richardson at work.)*

Navy Dental Officer Presentations. CAPT Fred L. Losee DC USN, Dental Research Officer, U.S. Naval Training Center, Great Lakes, Illinois was recently invited to present talks before three professional societies in Chicago, Illinois.

On 12 January 1965 he spoke before the Chicago Section of the Society for Applied Spectroscopy on "Trace Minerals and Dental Caries." On 1 February, he presented a talk entitled, "Soil and Its Relation to Dental Caries" before the Odontograph Society of Chicago, and he was invited to present a talk on 24 February entitled, "Caries, Cancer, and Coronary Disease —Is there a Relationship?" before the Chicago Dental Society.

American-Philippine Dental Seminar Held at Sangley Point. CAPT R. F. Erdman DC USN, Dental Officer, U.S. Naval Station, Sangley Point, P. I. hosted a dental seminar for the Philippine Dental Association in December, 1964.

Those attending the session included Doctor Ursua, President of the Philippine Dental Association; Doctor Rodriguez, Dean of the Dental School, University of the Philippines; COL D. Santos, military representative; and presiding officers of the various local chapters of the PDA throughout the island of Luzon. Also present were U.S. Navy dentists from Subic Bay, San Miguel, and Cubi Point. Presentations were made by three dental officers of the Sangley Point Naval Station. LCDR W. L. Sullivan DC USN presented an illustrated paper on the "Amalgam Alloy Restoration." LT E. F. McGee DC USN presented a paper on "Preparation and Filling of Root Canals," supported by two of the Navy Dental Corps training films. LT M. F. O'Halloran DC USN presented a "Comparison in Modern Fluoridation Techniques."

Navy Dentist Honored by Dental Societies. CAPT Angus W. Grant DC USN, Executive Officer, U.S. Naval Dental Clinic, Long Beach, California recently was elected to serve as President of the American Academy of Oral Roentgenology for 1965 and is to serve as the Vice Chairman for the Section of Oral Roentgenology for the 1965 Annual Session of the American Dental Association.

Dental Training Program for Peace Corps Physicians is Given Assistance by Navy Dental Corps. The chief dental officer of the Peace Corps has announced that material and techniques developed in the course for submarine medical officers in the management of dental emergencies have been used in teaching Peace Corps physicians. Peace Corps physicians have the responsibility of supervising the oral health of the volunteers in the field in isolated areas. This responsibility closely parallels that of the medical officers on fleet ballistic missile submarines. It was possible, therefore, for the Submarine Medical Center, Submarine Base New London, Groton, Connecticut to give some assistance to the Peace Corps dental officer in setting up a training program for physicians. The course at New London, taught by LCDR W. R. Shiller, DC USN, is a regular part of the School of Submarine Medicine curriculum. The course consists of eight hours of lectures, two hours of practical training in manipulation of materials, and ten hours of rotating clinical observation. The clinical periods are given at the Submarine Base Dental Department. CAPT G. O. Stead is the Submarine Base Dental Officer.

Disposition of Dependent Dental Records. Change Number 1 to SECNAVINST P-5212.5B, Disposal of Navy and Marine Corps Records, authorizes the destruction of dependents dental health record jackets, including SF-603 and roentgenographs, two years after sponsor has been detached from local duty station.

Reserve Dental Officers Participate in Casualty Care Training. CAPT. G. R. Shaver DC USN, ELEVENTH Naval District Dental Officer, scheduled a Casualty Care Program for thirteen Naval Reserve dental officers at the U. S. Naval Training Center, San Diego, California 4-7 December 1964. CDR W. J. Jasper and LT M. C. Clegg DC USN instructed the course which included officers of dental reserve companies 11-1, 11-3, 11-4, 11-5 and two active duty dental officers.

Naval Dental School Sends 32 Technicians to the Fleet. Certificates for successful completion of advanced and specialized training courses in the Enlisted Schools of the U. S. Naval Dental School were awarded to thirty-two dental technicians at graduation exercises on 18

December in the Main Auditorium, National Naval Medical Center, Bethesda, Maryland.

"An Extra Pair of Hands" was the theme of an address to the graduates by CAPT William R. Stanmeyer DC USN, Staff Dental Officer, Severn River Naval Command, and the Dental Officer, U. S. Naval Academy, Annapolis, Maryland.

CAPT A. R. Frechette DC USN, Commanding Officer of the U. S. Naval Dental School, presented letters of commendation to those students with the highest averages in their respective fields of dental technology: Donald G. Woolridge DT1, Advanced General; Stanley J. Richings DTC, Advanced Prosthetics; and Robert S. Weldy DT2, Basic Repair.

Eldor R. Oien DT2, received the ninth Thomas Andrew Christensen Award in recognition of his loyalty and devotion to duty in the U. S. Navy. Established by the Naval Dental School to honor the only naval dentalman posthumously presented the Navy Cross for extraordinary heroism, the award is presented, from time to time, to a graduate of an enlisted school who is chosen on the basis of his service record and service reputation.

RADM Frank M. Kyes, Assistant Chief of the Bureau of Medicine and Surgery (Dentistry) and Chief of the Dental Division, assisted by CAPT R. R. Troxell DC USN, Head of the Enlisted Education Department, awarded certificates to twenty graduates of the Advanced General School, ten of the Advanced Prosthetic School, and two of the Basic Repair School.

Music was provided by the String Ensemble of the Marine Band under the direction of MGY-SGT William Rusinak.

AVIATION MEDICINE SECTION

MEDICAL ASPECTS OF OPERATION SEA ORBIT, THE FIRST AROUND-THE-WORLD CRUISE BY NUCLEAR POWERED SURFACE SHIPS*

CDR F. H. Austin, Jr. MC USN, Medical Officer, USS Enterprise (CVA(N)65) and TF-ONE, F.P.O., New York, N. Y. 09501.

Introduction

Task Force One formed at 1200Z on 31 July 1964 under the command of RADM B. M. Strean, U. S. Navy. The force was composed of the three nuclear powered ships, *USS Enterprise* (CVA(N)65), *USS Long Beach* (CG(N)9), *and USS Bainbridge* (DLG-(N)25). Its mission was to conduct an around the world cruise (over 30,000 miles) in sixty five days without logistic support.

The force departed the Straits of Gibraltar and took a route south down the west coast of Africa, around the Cape of Good Hope, north up the east coast of Africa to Karachi, Pakistan. From Karachi the force proceeded down the west coast of India around Ceylon then southeast to Freemantle, Australia and eastward to Melbourne and Sydney. The final route homeward bound departing Sydney and Wellington, New Zealand crossed the South Pacific, rounded Cape Horn, proceeded up the east coast of South America, stopping at Rio de Janeiro, and from there to Norfolk, Virginia.

The primary overall objectives of Operation Sea Orbit were to test the capability of these ships to cruise at high speed indefinitely in all environments of the sea and weather without replenishment of any kind and to show the ships and their aircraft to the peoples of countries along the way. Several secondary objectives were also realized.

Medical Considerations

The Medical Department's view of Sea Orbit focused on the concept of a relatively extended cruise with long at-sea periods and short in-port liberty (rest and recreation) periods. This was combined with visits to unfamiliar ports and areas of the world, rapid climatic changes, and particularly the concept of essential isolation, in that no stores or supplies (medicine, fresh provisions, etc.) would be received and no medical evacuation utilized.

The cruise began 31 July 1964 from the Straits of Gibraltar and terminated in Norfolk, Virginia on 3 October 1964 (64 days). The ports of call were: Karachi, Pakistan; Sydney, Australia; and Rio de Janeiro, Brazil *(Enterprise);* Karachi; Freemantle, Australia; Wellington, New Zealand, and Rio *(Bainbridge)*: Karachi, Melbourne, Austrialia; Wellington and Rio *(Long Beach)*.

The complement of officers and crew of *Enterprise* was 4,244, *Long Beach* 941, and *Bainbridge* 421. *Enterprise* had six (6) Medical Officers aboard, *Long Beach* and *Bainbridge* had one each. The Medical Of-

* This article is an unclassified rewrite of the Medical Chapter contained in Commander Task Force One's Sea Orbit Cruise Report of 3 October 1964.

OPERATION SEA ORBIT, TASK FORCE ONE MEDICAL STAFF: (L to R) Drs Jim Snyder, Stuart Fleming, Cary Hodnett, Mario Rosa-Garcia, R. Bendixen, Frank Austin, Ben Jenkins (MSC), Don Gaylor and Hal Compton. (Official Photograph, U. S. Navy.)

ficer of *Enterprise* served TAD as TF-ONE Medical Officer. Three all-force Medical conferences were held aboard *Enterprise* during the cruise, for the exchanging of medical intelligence and for professional stimulus. Medical officers from accompanying ships were transferred by helicopter.

Discussion

General Considerations. The planning and logistics for Sea Orbit began early in the normal Mediterranean deployment when the cruise was first proposed. The drug and material requirements for the additional 65 days underway were well within the normal reserve held aboard each ship. All supplies were rechecked against up-dated usage rates, anticipating an increase in elective surgery and dental care, due to the protracted at-sea period. All needed supplies were obtained through normal channels by the last at-sea replenishment period.

The only additional immunization requirement over those necessary for the Mediterranean was a cholera booster. All hands on *Enterprise* were scheduled for this shot during the Naples in-port period in order to utilize the immunization gun of PMU-7. *Long Beach* and *Bainbridge* utilized needles. Stragglers were immunized thereafter and records screened on all personnel for currency of immunizations. As usual this program proved to be protracted and frustrating until all hands were current, both with immunizations and their record cards.

Psychiatric problems and morale factors were not unusual in numbers or degree, but as expected they occupied a good deal of the Medical Department's time along with the Chaplain's and Personnel Offices. Just prior to outchop, several requests from the Red Cross required evaluating to judge emergency leave justification. The prospect of an added two months to the normal deployment evoked some distress among a few personnel and/or their dependents. In most cases these problems worked out satisfactorily without leave. After the cruise was underway and isolation made emergency leave impractical, all personnel settled down to the serious job at hand.

Advanced medical information on the ports to be visited was obtained from Preventive Medicine Unit-7, Naples, COMMIDEASTFOR, CINCLANTFLEET and from the ALUSNAs concerned. The preventive medicine problems of concern were endemic Malaria in

tropical Africa areas, (involved only the liaison and C.O.D. crews), enteric disease hazards in Karachi, and the Yellow Fever, Malaria, enteric disease and venereal disease risks of South American ports. Personnel were indoctrinated concerning the hazards from contaminated food and drink and mosquito-borne diseases. The intensive command and medical programs relative to venereal disease education and prevention were continued during Sea Orbit. The incidence of all diseases was low, probably attributable mostly to the short liberty visits and thus the reduced exposure.

Transit, Phase One. No significant medical or surgical problems were encountered in transit around Africa and into Karachi. The advanced liaison parties and all C.O.D. Aircraft crews were begun on malaria prophylaxis utilizing one combined chloroquine—primaquine tablet once per week in accordance with BUMEDINST 6230.11C.

The aircraft (CIA's) returning aboard from all airports were sealed and sprayed to kill insects.

On 4 August, at sea off Liberia, a GMCS aboard *Bainbridge* died of myocardial infarction. His remains were transported by helo to *Enterprise,* prepared by a licensed embalmer and air evacuated by CIA to Roberts Field, Monrovia for air shipment home. ALUSNA, Monrovia arranged details for the remains (and escort) which arrived in Charleston, S. C. on 8 August, thus greatly relieving the stress on the next of kin. The remains could have been retained aboard for burial at sea or return to CONUS had this been an operational necessity.

The first all-force Medical Conference was held on 12 August and anticipated problems of the Karachi port visit discussed.

On 19 August the advanced party was flown into Mauripur Airport, Karachi and several personnel, including the disbursing officer and pilots were quarantined because of "improper medical shot records." It was subsequently learned that the health officers had questioned the absence of a certification stamp over the Medical Officer's signature, especially for yellow fever. This stamp is required on the International Certificate, PHS Form 731, but is specifically not required for the Military Form 737 (white card) in accordance with BUMEDINST 6230.1D. However, in order to avoid further difficulties, all personnel going to the airport thereafter were issued International Cards and DD Form 737 entries for Smallpox, Cholera, and Yellow Fever were all stamped. It is considered advisable for crews flying into International airports to possess a PHS Form 731 (yellow card) as well as the DD Form 737, the entries of which have been properly signed and stamped.

Port Visit, Karachi (20-21 August). Bainbridge moored alongside a pier while *Long Beach* and *Enterprise* anchored out. The rough seas restricted boating and limited the liberty party to a total of approximately 2,500 personnel from the three ships for the day and a half available.

Eight doctors from the Basic Science Medical Institute (operated on aid by the University of Indiana) at Jinnah Hospital were invited in advance and visited *Bainbridge* and *Enterprise* on 21 August. Dr. Harold Margulies, the Director from University of Indiana, was accompanied by three other United States and four Pakistani doctors.

The Pakistan Director of Naval Medical Services, Commodore S.H.A. Gardezi, hosted the Medical Officers to lunch and a tour of the Naval Hospital facilities.

Personnel going on normal liberty were considered by TF-ONE Medical Officer to be at minimal risk from malaria. However, instructions dictated that chemoprophylaxis be given. This was accomplished by administering one tablet of combined chloroquine-primaquine 48 hours prior to port entry so that possible enteric upsets would not be confused with diarrhea which might be the result of eating and drinking ashore. All Karachi Medical personnel consulted were of the opinion that the risk in metropolitan Karachi for the short visit was slight.

The incidence of enteric disease in the population had been diminishing over the last week prior to TF-ONE's visit. A minimal number of personnel suffered diarrhea following the visit, and no pathogenic organisms were cultured.

Camel saddles and fur hats were purchased at the native markets in large numbers by the crews. The hats were found to harbor lice and were subsequently disinfected with DDT powder. The saddle pads contained unsterilized raw cotton. These were all unstuffed and the cotton discarded so as to avoid problems of the importation of this material into CONUS.

One crewman of *Enterprise* was bitten on the finger by a pet monkey. Because the incidence of rabies was reported as high, this man was treated with a course of rabies vaccine (duck embryo). No complications developed.

Just prior to port entry, an *Enterprise* helicopter crashed at sea. All four personnel were rescued after a few minutes in the water. While attempting salvage, skin divers spent about 45 minutes in the water which was infested with long, yellow sea snakes, reported to be poisonous. No personnel were bitten, but these snakes were discussed with Karachi medical personnel who confirmed that they were poisonous and that a polyvalent antiserum was available at hospitals in Karachi.

The hospitals of Karachi requested blood donors and twenty one personnel donated blood ashore.

Venereal exposure was estimated to be low. One case of gonorrhea and one of chancroid were reported.

Transit, Phase Two, An unusually low number of diarrhea cases (15) occurred in the three days follow-

ing Karachi. The episodes were self-limited, no secondary cases occurred and no pathologic organisms were cultured.

The *Long Beach* Medical Officer performed his second emergency appendectomy of the cruise on 23 August.

The second all-force Medical Conference was held aboard *Enterprise* on 26 August. Problem medical cases were presented for discussion and professional papers given.

ALUSNA Canberra sent the following message on 19 August: "GOA Department of Health requires that the following statement from Senior Medical Officer TF-ONE must be received and acknowledged by Director of Health, Perth, Western Australia prior to takeoff of any flights enroute Perth. No quarantinable disease on board any ship in TF-ONE including Smallpox, Cholera, Yellow Fever, Plague, Typhus and no communicable disease on board. All personnel (Military and Civilian) embarked in TF-ONE have been vaccinated against Smallpox. Signed (Name, and Rank of Medical Officer). This statement will be considered effective for all Australian Port visits and all flights landing in Australia from *Enterprise*. NOTE: A communicable disease will not affect port clearance but must be made known to health authorities. Department of Health states that they will accept a statement which is initiated up to 48 hours prior to ETA of COD aircraft". This required Pratique message was sent on 28 August, Priority/Unclassified, Action ALUSNA CANBERRA, who passed it to Health Authorities and relayed acknowledgment and clearance.

Until about 28 August the full range of fresh vegetables was available. Thereafter for another two weeks, carrots and celery remained. Then only fresh apples and dehydrated, canned, and frozen fruits were available. No vitamin deficiencies were anticipated and none were seen in the personnel. Supplemental vitamins were not deemed necessary and were medically prescribed only on an individual case basis. Personnel were encouraged to drink fruit juices and eat the wide variety of foods offered.

Port Visits, Australia and New Zealand. There were no preventive medicine problems anticipated from the visits to Australia and New Zealand ports. Reception of the personnel was overwhelming, and an estimated 8,205 liberties were made by *Enterprise* personnel in Sydney during the two and a half day visit (4, 5, 6 September 1964). A similar welcome and percentage of liberties were experienced by *Long Beach* and *Bainbridge* in Freemantle and Melbourne, Australia and in Wellington, New Zealand.

Only one man was injured in Sydney. This was due to an auto accident in which he sustained a lacerated lip and moderate concussion. He was well treated at Prince Alfred Hospital and released to return to *Enterprise*.

A young female kangaroo (18 months old) was acquired from the Taronga Zoological Park, Sydney for transportation to the Norfolk Zoo. The Director issued a "live stock certificate and declaration" which stated that the animal was "free from all infectious and contagious diseases", and "has not within the next preceding six months been in direct or indirect contact with stock infected with any such diseases". Except for some mild diarrhea, perhaps seasickness, and slight weight loss, the kangaroo took the trip well aboard *Enterprise*, and presented no health hazard. No quarantine problems were encountered in importing the animal into CONUS.

Transit, Phase Three. No enteric disease outbreaks occurred following the Australian and New Zealand visits. Venereal disease incidence was low.

Morale was distinctly boosted by the visits to these friendly English speaking countries.

During this transit, at a longitude of approximately 40° South, the task force passed through a time zone each day, losing an hour each twenty four. This disruption of the Circadian Cycle (physiological clock mechanism) resulted in fatigue. The crew remained busy with training exercises and no major deleterious effect was encountered.

The third all-force Medical Conference was held on 18 September and anticipated problems in South American ports were discussed.

A slight increase in non-aviation accidents and injuries was noted. This was attributed in part to high winds and rough seas, but emphasis on the ship's general safety programs was intensified.

A medical information report requested from ALUSNA Rio by message arrived with the first mail from Montevideo. No information on venereal disease was available. From this letter, warnings concerning eating of unwashed vegetables were disseminated to the crew, as well as the information that the incidence of typhoid fever, amebic and bacillary dysentery and hepatitis was high.

The following message was sent to ALUSNA Rio. "Pass to port director. ATTN Health Officer. Pratique certified IAW Gen Order 20. No international quarantinable diseases and no other communicable diseases aboard any ships TF-ONE. All military and civilian personnel have received Smallpox and Yellow Fever immunization.. Each ship has a medical officer embarked. *Enterprise* has on board one kangaroo in possession of health declaration for absence of disease or exposure for six months. Will not land animal. No other animals or birds aboard. CDR Frank H. Austin, Jr. MC USN, Medical Officer TF-ONE certifies".

In anticipation of a high venereal disease risk, the preport Petty Officers' Venereal Disease Meetings were given special emphasis, with the stress being placed on hazards of spread into CONUS with only nine days to go until arrival.

Port Visit, Rio de Janeiro (23-24 Sept 1964). No problems were encountered with quarantine declaration. Approximately 2,500 personnel were on liberty ashore each of the two days. No significant injuries or medical emergencies were encountered.

The openly accepted custom of street and bar "solicitation" indicated that venereal exposure rate might be extremely high. Numerous cases of the various venereal diseases were subsequently diagnosed.

Transit, Phase Four. The first case of gonorrhea appeared on the evening of 25 September an incubation period of just 48 hours.

No medical problems were encountered during the transit period from Rio to CONUS. The standard Pratique message was sent to the Naval Station, Norfolk and advance liaison concerning the kangaroo and medical patients for transfer to hospitals was provided.

One patient on *Enterprise* was tentatively diagnosed as having malaria on 25 September. His symptoms had begun on 10 September, twenty days after one day's liberty (exposure?) in Karachi. He had taken one combined Chloroquine-primaquine tablet prior to liberty.

Medical Summary

Operation Sea Orbit offered a unique opportunity (the first) for the Health Physics Sections of Task Force One to measure the atmospheric radiation levels around the world and in both hemispheres. The continuous monitoring of the air, "swipe" and water samples demonstrated:

a. That the fall-out levels along the track of Sea Orbit are at present negligible.

b. That radioactive contamination from nuclear powered ships is nil.

Through a visual demonstration, as part of the presentation for visitors, the safety of nuclear reactors was vividly displayed.

Surgical Experience: No unusual incidence of surgical disease appeared. *Enterprise* performed five appendectomies, *Long Beach* three. *Enterprise* had six major emergency cases (hand and arm traumas), *Long Beach* two, and *Bainbridge* two. Heavy seas resulted in four moderate to severe injuries aboard *Long Beach* and *Bainbridge*. *Enterprise* surgeons performed over 148 elective minor and major surgical procedures during the cruise, thus maintaining the Surgical section in a high state of readiness.

Medical Experience: Bainbridge had one death due to myocardial infarction and two cases of ureterolithiasis were seen. *Long Beach* encountered 105 cases of upper respiratory infection in August and 48 cases in September. *Enterprise* reported no unusual prevalence of medical diseases.

Psychiatric Experience: The majority of the crews tolerated the isolation and long steaming periods well. *Long Beach* transferred one case diagnosed as Paranoid Personality to *Enterprise* for disposition. The usual incidence (5-10 cases per week) of moderate anxiety reaction was seen and treated by the various Medical Officers. Morale was generally high, with some exceptions. These were attributed not so much to Sea Orbit, itself, as to the fact that the ships had already been deployed for about six months when the Operations began. No psychiatric limiting factors to the extended operation of a Nuclear Task Force could be anticipated from the experience of Sea Orbit, except that careful personnel screening, of the nature used for Antarctic wintering-over parties, would reduce the numbers and severity of problem cases.

Preventive Medicine Experience: All immunization records were screened, with special attention being given to cholera and yellow fever. No personnel contracted any non-venereal communicable disease ashore. The Karachi visit yielded approximately 20 cases of gastroenteritis on the three ships, with no specific pathogenic organisms being cultured, and no secondary cases developing. Venereal disease incidence was low from Karachi (1) and Australia/New Zealand (11). The final figures for Rio de Janeiro surpass 40 cases. Several cases of gonorrhea with an incubation period of only 48 hours developed following this port visit.

Aviation Medicine Experience: Two aircraft were lost during the cruise with all personnel being recovered. Both were due to material failure, a UH2A on 20 August and an A5A on 27 September. The Air Group flew 18 fire power demonstrations and 8 fly overs and had 9 days of limited flight operations for training and test. The reduced operating pace caused no major difficulties. The need for assuring perfection and safety with infrequent flights was trying to morale but was a demand which the Air group and associated ships' departments performed well. The Flight Surgeons detected no pilot or air crew difficulties associated with the operation.

Dental Summary

In anticipation of increased dental work load, the department augmented supplies prior to departure from the Mediterranean. *Enterprise* facilities included six operatories with five Dental Officers assigned.

The average work load during the prior deployment had been 2,200 procedures per month. During August the department performed 1,000 fillings, 200 extractions, 2,586 preventive dental, endodontic and periodontic procedures and delivered 36 prosthetic appliances. September figures were comparable. This increased work load was attributable to the additional availability of patient personnel during the longer at-sea periods and slackened aviation operations.

The two qualified oral surgeons aboard provided the coverage for maxillofacial surgery and backup for general anesthesia.

There were no serious dental emergencies and no problems other than increased material usage rates attributable to Operation Sea Orbit.

Conclusions

There were no medical, surgical, psychiatric, preventive medical or dental factors which limited the readiness of Task Force One during Operation Sea Orbit.

The incidence of all diseases and conditions was not significantly increased over the experience of normal deployments.

Recommendations

The Medical Officers of large Nuclear Task Forces planning more extended operating periods and isolation should:

a. Anticipate greatly increased usage rates of some drugs and material.

b. Consider careful medical and psychiatric screening of personnel to strengthen Force morale and reduce psychogenic problem cases.

AFTER THAT "HAIRY ONE"

CDR John J. Gordon MC USN, Manned Spacecraft Center, National Aeronautics and Space Administration, Houston, Texas.

"Comes a pause in the day's operations!" This could present no better opportunity for the Flight Surgeon after a pilot has had an accident or has made one of those "beautiful saves" following a "hairy situation".

There are few things outside of a forceps rotation during a transverse arrest in prolonged labor, or a strangulated bowel, which take precedence over the post-situational examination and interview of an aviator. He may be bathed in his own perspiration or the salty water of the mother sea. In either case, once any injury is diagnosed and satisfactorily treated, or in the case of no injury, it is vitally important that this aviator have a chance to talk. It may begin with his description of what happened or a mountain sized diatribe garnished with all the invectives of modern man. It behooves the Flight Surgeon to start this flow with either a few leading questions or an appropriate observation, and the subtility of the traditional two ounces of brandy.

Once the aviator begins to talk do not interrupt other than to lead the narrative gently toward salient points. Stand by for a wealth of information and attitudes concerning himself, his job, the CAG, his skipper, the bull ensign (perhaps wingman), the LSO, wife, family, girl friend or even the old Doc himself.

Our aviator may now find himself in the position of making an admission that he was or is afraid. Make it easy for him to express his fear but do not express it for him. Let him talk about it, mull it over and realize that fear can be a normal healthy emotion. At the same time, try to discover if his particular brand of fear is transient and produced by the situation or the more sinister kind which pervades him constantly, consciously or subconsciously.

The attitude toward fear in most squadrons, particularly among junior pilots, is the fear of fear. The more senior pilots have experienced the embrace of fear and readily admit it. This attitude being disseminated to junior pilots through casual discussion is very revealing and necessary to them. It is important that the aviator have an adequate understanding of fear. If in the months of association you think you know this aviator, you are now in a position to correct or augment your opinion. This is one fleeting moment when you may strengthen the bond of understanding and also let him convey his true feelings while allowing him the dignity of his calling as a man and aviator. In any case nothing shocks the interviewer.

The Flight Surgeon's attitude during these interviews should be akin to the equanimity of Osler. Whether the situation requires five minutes or an hour, convey the impression that you have nothing more to do than to listen to him. At the same time there are leads trickling out of the conversation which may be pertinent to the cause of the accident or the "save." These attitudes and impressions are important in evaluating the pilot's emotional equillibrium and his ability to perform under pressure. These are aptly described as the "Beef and Bones" of the flier's emotional mosaic.

When this informal interview is concluded you should know whether the pilot is "up" or "down." In either case inform him so immediately and then pass the word to the squadron skipper, preferably in person, and the ship's captain if at sea. Now you may set up further conversations if required or merely conduct the readyroom or wardroom coffee break observation as necessary. Never convey the idea that you have this pilot in a test tube for observation; it is entirely unnecessary. However, do not forget the advantage of a late evening visit to the pilot's stateroom where he is surrounded by nothing more than a stack of letters, his Hi-Fi and a picture of a beautiful woman. This is his world when not in the cockpit of his aircraft or in the readyroom and his attitudes here are very often naked and honest.

Someone once defined naval aviation as "Prolonged periods of utter boredom interrupted by moments of stark terror." Here it is the calling of the Flight Surgeon to shorten the sheer boredom and ease the intensity of the stark terror.

MISCELLANY

NURSING SEMINAR ON THE ACUTE CORONARY PATIENT

CDR Martha O. Brandenburg NC USN, Chief of Nursing Service, Station Hospital, U.S. Naval Air Station, Patuxent River, Maryland.

A Nursing Seminar on the Acute Coronary Patient in the Hospital sponsored by the Heart Association of Southern Maryland was hosted by the staff of the Station Hospital, Naval Air Station, Patuxent River, Maryland, on 9 and 10 December 1964. Attendance was open to all medical, nursing, and allied medical personnel interested and involved in whole patient care to include discharge planning. Approximately 125 persons attended each day. The patient was presented as seen by the doctor, hospital staff nurse, dietitian, public health nurse, vocation rehabilitationist, and the patient himself. The general theme of the seminar centered around the real need for the nurse to understand the experiences of her patient both physiologically and emotionally and determine accordingly her nursing activities since the nurse's attitude, manner, and response in making nursing judgments influence appreciably the subsequent recovery course of the patient.

During the morning session a review of the physical changes and medical management of the patient was presented on 9 December by Dr. Robert T. Singleton, Assistant Professor of Medicine, University of Maryland School of Medicine also Director, Cardiovascular Laboratory, University Hospital and on 10 December by Dr. Donald Dembo, Instructor in Medicine, University of Maryland School of Medicine also Chief of Cardiology, Maryland General Hospital. Both Drs. Singleton and Dembo stressed the fact that coronary disease was not necessarily a disease of the aged but indeed a problem to all adults including in some cases noted changes in coronary arteries at the early age of twenty. Dr. Dembo stated that a concept is being developed and pushed to restore the patient who has suffered acute myocardial infarction to previous activity as quickly as possible inasmuch as those individuals so managed to do better than those who are placed on restricted activity. The role of the nurse was divided into two areas: (1) the emergency stage at the time of cardiac arrhythmia, i.e. cardiac arrest or sudden death, (2) the healing process.

In the hospital environment the nurse, nurses' aide or hospital corpsman is very often the first person to discover the patient experiencing cardiac arrhythmia. She must initiate immediate action in this sequence: (1) diagnose, (2) ventilate, (3) cardiac massage, (4) call for help. Many of the patients experiencing clinical death can be saved when immediate emergency measures are started within the first four to six minutes prior to the onset of biological death. The immediate emergency need of the patient is ventilation by mouth to mouth or mouth to nose resuscitation methods. There is no advantage in stimulating heartbeat of a patient when there is no oxygenization of blood. Artificial respiration should be done rapidly for the first three to six times and repeated intermittently with fifteen seconds of heart stimulation using closed chest massage. A call must be made for help. Artificial ventilation must be continued until the patient assumes spontaneously continuous respiration of adequate rate and depth. Upon arrival of the Medical Officer, the Nurse's role quickly changes to providing supportive care for the definitive cause of arrhythmia. Appropriate drugs are brought to the bedside, syringes filled, labeled, and refilled as necessary. All unnecessary equipment and personnel should be removed from the patient environment and a defibrillator and an electrocardiograph brought to the bedside. Each movement of the nurse must be deliberate and effective since the demands of the moment leave no time for clumsiness or awkwardness. Many hospitals have organized emergency rescue teams that report on call to the area with appropriate mobile equipment and drugs; nevertheless, the nurse must be prepared to bridge the gap between the onset of the illness and the arrival of the emergency rescue team.

Miss Lucille Kinlein RN, Director of the Cardiovascular Disease Nursing Program at Catholic University, gave a paper on Nursing Care of the Patient. She emphasized the importance of the nurse's role in her awareness and attitude toward the patient's fear of death. An atmosphere should be set in which the patient can feel free to express his anxieties. Actually, the long-time management begins with the onset. Many of the earlier reactions of the hospital staff to the patient's pain, fear, and dyspnea will have a lasting effect on his response to his illness. Not only can the nurse keep the doctor informed of the needs, fears and problems of the patient, she can also assist the patient to cope with his problems through understanding, interpretation, and support.

During the last hour of each day, a panel composed of the doctor, hospital nurse, public health nurse, dietitian, and vocational rehabilitationist discussed questions presented by the audience.

FOUR U.S. NAVY NURSE CORPS OFFICERS RECEIVE PURPLE HEART AWARDS IN VIETNAM

By J. D. Tikalsky JOC USN

SAIGON, January 8, 1965—Shortly before 6 P.M. on December 24, Ruth A. Mason entered the lobby of the Brink Bachelor Officers' Quarters here, where she paused to talk to her roommate, Frances L. Crumpton, who had just left Ann D. Reynolds in the suite which the three U.S. Navy nurses shared on the first floor.

As they talked, an explosion caused by a Viet Cong Terrorist bomb rocked the building. The blast knocked Miss Crumpton to the floor, and flying debris struck Miss Mason and Miss Reynolds. A window frame blew in on another Navy nurse, Barbara J. Wooster, who was in her fourth-floor room. The blast ruptured both of Miss Crumpton's eardrums. Miss Mason received an injured back, and Miss Reynolds suffered a mild concussion. All were cut by flying glass.

Moving from patient to patient in the courtyard in front of the hotel, the four, who are assigned with four other Navy nurses to the U.S. Navy Headquarters Support Activity, Saigon, Station Hospital, cleaned wounds and prepared the injured for evacuation to the hospital.

When ambulances and other vehicles began arriving, the nurses left the scene of the blast and moved with the first loads of injured to the hospital, where they refused treatment for themselves and continued to care for those more seriously wounded.

These four nurses became the first women members of the U.S. Armed Forces to receive the Purple Heart Award for injuries in the Viet Nam Conflict.

During the awards ceremony, Headquarters Support Activity commanding officer CAPT Archie C. Kuntze USN, cited their actions as "beyond the call of duty" and "in keeping with the highest traditions of the Naval Service."

"The fact that they were hurt themselves but working on others had a tremendous morale effect on both the patients and the hospital staff," said CAPT R. A. Fisichella USN, senior medical officer.

It was only after all the other 58 Americans and one Australian who had been injured were cared for that the nurses permitted doctors to treat their own wounds.

Treating war wounded is an almost daily occurrence for nurses at the Navy hospital here, which is the only U.S. Navy medical facility in the world treating combat casualties direct from the field. A special plan to handle mass casualties is put into effect when large numbers of persons are wounded in incidents such as the Brink explosion. The Brink incident was one of three large explosions which have occurred in Saigon since the American effort was boosted in 1961.

REPORT ON NEW U.S. NAVAL DENTAL TRAINING FILM

Mr. Charles A. Greene, Film-TV Production Division, U.S. Naval Medical School, NNMC, Bethesda, Md. 20014.

A new dental training film, "Intraoral Roentgenography," (MN-9774), was released during last summer and is now being distributed. The purpose of this 23-minute color motion picture is to acquaint dental personnel with the advantages of variable-kilovoltage roentgenographic equipment and to demonstrate that the technique using parallel film placement and fixed exposure time with varying kilovoltages produces intraoral roentgenograms of superior quality.

An article in the 7 August issue of the News Letter (Vol. 44, No. 3, Dental Section) described in some detail the technique of parallel film placement and use of the extended tube or "long cone", and suggested KV settings for specific oral areas. The new training film will serve as a graphic demonstration of the principles stated.

To establish a background against which to describe the use of improved equipment and techniques, the film first explains the principles of roentgen-ray generation and shows some characteristics of the ray. It emphasizes control of radiation exposure by means of filtration, use of fast film and the increase of distance. These sequences are in excellent animation that presents the principles so clearly that the statement will appeal to both the new learner and the experienced operator.

A comparison of the angle-bisection technique with that employing parallel placement of the roentgenographic film is also presented in animation. Live-action sequences follow, showing precisely how the parallel-placement technique works in various areas of the mouth, in combination with right-angle positioning of the "long cone". The film explains the use of increased kilovoltage for optimum penetration, control of radiation exposure and improvement of image quality. Roentgenographic films of actual cases are of course included to show the results of the improved techniques described, as compared with results of those formerly used.

Prints of "Intraoral Roentgenography" are being distributed to all naval hospitals in the United States and to certain specialized facilities for training of dental personnel.

ADDENDUM TO ARTICLE ON USNH, PHILADELPHIA, DESCRIBING THE U.S. NAVAL AURAL REHABILITATION CENTER

The article in the November 27th issue of Medical News Letter concerning the U.S. Naval Aural Re-

habilitation Center was prepared by Mr. Joseph Scanlon, Director of the Aural Rehabilitation Center, under the supervision of Commander G. R. Hart, Chief of Department of Otolaryngology. Further reference material regarding the work of this Center may be found in the following sources: 1. "The Rehabilitation Program of the Navy: Aural Casualties", *Laryngoscope* page 489, Sept 1944. 2. "Rehabilitations of Hearing and Speech." U.S. Naval Medical Bulletin, March 1946."—Editor

SPECIAL ARTICLES

CAT SCRATCH DISEASE

A Report on the Experiences of CAPT A. M. Margileth, Chief of Pediatric Service, USNH, Bethesda, Md.

NEW YORK—Skin test antigen has proven to be a useful differential diagnostic tool in cat scratch disease. According to CAPT A. M. Margileth of a U.S. Navy Pediatric Service, the antigen can be used with, at the very least, "95% confidence."

In a report to the annual meeting of the American Academy of Pediatrics, the naval pediatrician detailed his experience with 41 young patients (most under 20 years of age) over the past seven years.

When the skin test antigen was used in the 41 cases studied at the U.S. Naval Hospitals in Chelsea, Mass., and Bethesda, Md., all patients had a positive reaction which correlated well with the clinical diagnosis. Other studies have shown only 3% to 4% positive reactions in control (well child) groups. No false positive skin tests were observed in over 60 patients with tuberculosis, infectious mononucleosis, tularemia, brucellosis and Hodgkin's disease and bacterial lymphadenitis.

It was noted that while lymphogranuloma venereum, syphilis and toxoplasmosis are rarely encountered in young children, they should also be considered when marking a differential diagnosis.

Most of the cat scratch disease patients exhibited the usual features—a primary lesion followed by fever, malaise and subacute regional adenitis, with gradual resolution in one to two months. Several of the Bethesda pediatrician's cases had unusual manifestations, for example, atypical pneumonia, encephalitis, popliteal space tumor or the oculoglandular form of the disease.

CAPT Margileth also confirmed the findings of others that the disease occurs more frequently during the fall and winter months and that it infects children and teenagers much more often than adults. "It is usually transmitted by a scratch or lick of a cat, but in rare instances, dogs have been implicated," he said. "The disease is not transmitted from man to man, so neither isolation nor quarantine is indicated."

The Bethesda pediatrician noted that his repeated attempts to isolate the causative agent were unsuccessful, as they have been in other studies, though it is presumed to be a virus.

"Management of the patients was directed first toward the primary lesion if present," CAPT Margileth said. "Moist compresses which promoted drainage appeared to shorten the duration of the regional lymphadenopathy."

In some of the cases, the naval pediatrician performed excisional biopsy of the primary lesion or a regional bubo. He found that if suppuration of the bubo occurred, repeated aspiration using local anesthesia was the most effective and least traumatic therapy.

"Closed aspiration is simple, can be performed quickly in the office, and provides material for culture and preparation for more antigen," he explained. "Antibiotics are ineffective and were used only for secondary bacterial complications, which were rarely encountered."

CAPT Margileth noted that the prognosis was excellent for all of his patients. There were no sequelae, and second attacks did not occur.

PEDIATRIC OFFICE BACTERIOLOGY*

CAPT Andrew M. Margileth MC USN, Chief of Pediatric Service, U.S. Naval Hospital, NNMC, Bethesda, Md.

Streptococcal infections have been largely controlled with proper recognition and therapy. The serious and long lasting sequelae that were formerly seen are relatively rare. It must be granted that all infections cannot be cured even when properly treated by present methods, but results will only be good in those cases that are amenable to therapy when the disease processes are properly recognized. This recognition of infection is not, however, as simple as generally believed. Many clinicians state that it is easy to recognize streptococcal pharyngitis, but this is not always true. Improper diagnoses have been reported 25 to 65 per cent of the time and then generally too much, too little, or inappropriate therapy has been instituted.

Our answer to this confusion is the utilization of culture facilities in the pediatric outpatient clinic. Rather than send the patient to a laboratory, we take the cultures, incubate them for 18 to 24 hours, and

* Adapted, in part, from Proceedings of the Monthly Staff Conferences, USNH, Bethesda, Maryland, 15 Nov 1963; also, Guest Editorial, Medical Tribune.

then read them. In doubtful situations we check for beta hemolysis with a microscope and do gram stains. This is an office aid to diagnosis which is relatively inexpensive, and simple to perform in a clinical practice of 100 patients each day.

Some of our colleagues practicing medicine will admit that diagnosis of what is and what is not streptococcal infection is sometimes difficult, but they object to the routine use of cultures for the following reasons: (1) Delay in reporting: the average clinical laboratory will return results in 3 to 5 days, a time lag which is difficult to overcome. We have our report in 24 to 48 hours. (2) Cost: the high cost of culture plates, media and throat swabs ($5 to $15). Our costs have averaged $1.00 per patient. (3) Time: many physicians feel that they cannot take time to explain to the patient or the family the necessity for a culture when an antibiotic will probably be given anyway. (4) Cumbersome: many physicians state that fluorescent antibody techniques will be available in the near future and then therapy can be instituted quickly and accurately as indicated. Although it is true that these techniques are just as accurate and results are available sooner, they must be performed in a standard laboratory, and such facilities generally are not available to the clinician.

These objections are valid; however, they can be overcome with the use of a small incubator in the office, and commercially prepared blood plates, and a few minutes to read the plates each morning. The patients' case histories can be reviewed as each plate is examined. In this way, the delay of the report and the time factor can be minimized. Cost is also reduced for the patient. The initial financial outlay for the necessary equipment is reasonable and in terms of patient interest and appreciation (not to mention the cost of 5 to 10 days of antibiotic treatment which may be unnecessary) the original investment will be quickly returned.

In spite of a busy schedule with large numbers of patients, we have had a rewarding experience with culture facilities in our clinic. We have a large group of physicians in training who come from many disciplines and teaching experiences. All of us gain knowledge with the correlation of the clinical and bacteriologic diagnoses. This, we feel, is medical education; but also is a type of education that carries over to the parent. We have found it easy to convince people that it is important to delay therapy in order to develop antibody response. The opportunity to determine appropriate antibiotic therapy in those patients that do have a specific bacterial infection is most valuable. In the long run, we are able to save extra cost to the patients that are not overtreated with antibiotics. It is not an unusual situation now, to have parents ask for a culture instead of an antibiotic.

Ever since the Second World War the need has been felt for a code of ethics concerning experiments carried out on human beings in the name of medicine. After an intensive examination of the subject extending over several years, such a code has now been adopted by the World Medical Association.—WHO Chronicle 19(1): 31, January 1965.

The legal measures on radiation protection introduced in a number of countries in recent years have tended to concentrate on the hazards arising from the various uses of nuclear energy. Yet x-rays—which are often not even mentioned in the legislation—at present constitute by far the greatest man-made source of radiation exposure. —WHO Chronicle 19(1): 34, January 1965.

"Much of our citizenry takes seapower for granted, never surprised when Navy ships turn up in various hotspots around the world. I hope our Naval presence will always be available, but I emphasize that seapower is so important to our nation that it must never be neglected or underestimated. There is an immense penalty attached to failure to understand the use of the sea and the need to control it."

Admiral David L. McDonald
Baltimore Sun

It is becoming increasingly clear that the control of gonorrhoea is unlikely to be achieved except by mass treatment or by some type of immunoprophylaxis. The recent development of trial vaccines against cerebrospinal meningitis may help to advance research on the immunology of gonorrhoea, since the agents of both diseases belong on the Neisseriae group and are crossreactive serologically.—WHO Chronicle 19(1): 9, January 1965.

ANTICANCER RESEARCH

The National Cancer Institute, Public Health Service, and the National Aeronautics and Space Administration are cooperating in a 1-year medical research project to study the anticancer, carcinogenic, and antiradiation potentials of a group of chemicals closely related to plant growth regulators.

The study extends earlier NASA research that showed that certain plant growth regulators which prolong the life of cancer cells in a test tube can produce a lethal effect when altered. Mixtures of the regulators and their related compounds were even more lethal.

The effects of a variety of these compounds on tumor cells in test tubes and in laboratory animals and on the survival of irradiated normal and tumor-bearing mice are being investigated.

The research is being conducted in the Space and Information Systems Division of North American Aviation, Downey, Calif., under a $198,185 contract with the Public Health Service. The National Cancer Institute is providing technical direction for the project, which is being financed through a transfer of funds to the Public Health Service by NASA under its technology utilization program.—Public Health Reports 79(12): 1080, December 1964.

ELECTRIC "BARRIERS" FOR SNAIL CONTROL

Further investigations into an electrical "barrier" system, which might be useful in the control of aquatic snails are recommended in the fourteenth report of the WHO Expert Committee on Insecticides.

It has been observed that when an electric current is passed through water where aquatic snails are submerged, they move rapidly towards one of the electrodes. This phenomenon, it is felt, might be put to good account as a control measure against bilharziasis by preventing, for example, the migration of snails past given points in a stream system.

The Committee also draws attention to the possibility of applying molluscicides to rivers and ponds by placing the chemical in a porous-walled container, from which it would slowly escape by diffusion. This is similar in principle to the old method of suspending burlap bags of copper sulfate in the flow, but the use of a porous-walled container might permit a more constant flow of molluscicide as particle size would no longer play a part. The attraction of the method lies in its extreme simplicity and in the fact that the containers can be left completely submerged, thus minimizing the chance of their being tampered with while unattended.—WHO Chronicle 18(11): 431, November 1964.

Some drugs appear to have a prophylactic action against smallpox and may prove to be of considerable help in the control of the disease. But their action is short-lived, so that the population in endemic areas would still have to be vaccinated and revaccinated periodically.—WHO Chronicle 18(11): November 1964.

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